

ses there given. When Cooke and Masee describe a *Gloeosporium* on cultivated *Pelargoniums* in three lines, who can believe that it is *adequately* characterized? When that species is found on wild *Pelargoniums*, as it well may be, does anyone think that it will be *easily* identified? Will it not rather necessitate a painful expenditure of time, and perhaps even then (should the type specimens be lost) have to be relegated to the limbo of "species non satis notæ"? The case has many parallels.

Again, he suffers from the description of imperfect material. Mitten sees *two stems* of a *Hypnum* in Douglas's collection and describes it as a new species! with the remark that it may be an already described species! Austin receives a sterile *Hypnum* from Colorado, and describes it as a new species, comparing it with four others in widely separated sections of the genus! Kindberg finds a moss in Macoun's collections, and though he is unable to determine to which of two very unlike genera it belongs, describes it as a new species! Examples might be multiplied.

Again, he is exasperated by description by comparison. For example, Kindberg recently describes a *Bryum*, of which he had neither inflorescence nor fruit, in five or six lines, and by comparing it with a well-known species, to which he imagines it allied. Now no finite intelligence can determine the affinity of a *Bryum* by leaves alone; and when over half of the points of comparison are within the known range of variation of the older species, we must conclude that the description is of little use except to legalize a name. Such names are only incumbrances, not helps. His alleged description is too brief, purely comparative, and based on entirely insufficient material. It is a type of all that is bad in its line. Let us hope that the species makers will cease

Giving diagnoses instead of descriptions;

Comparing a new species with an old, except as a supplement to a full description; and

Naming material which is only fit to be shelved till it is completed by further discovery.

CURRENT LITERATURE.

The New Manual.¹

For some years previous to his death, Professor Gray had in contemplation a revision of his popular text-books, the *Lessons*, *Manual* and *Field, Forest and Garden Botany*, all of which were out of date, and, the

¹ *Manual of the botany of the Northern United States, including the district east of the Mississippi and north of North Carolina and Tennessee.* By Asa Gray, late Fisher Professor of natural history in Harvard University. Sixth edition, revised and extended westward to the 100th meridian, by Sereno Watson, curator of the Gray Herbarium, Harvard University, and John M. Coulter, Professor of Botany in Wabash College; assisted by specialists in certain groups. Ivison, Blakeman & Co., New York and Chicago. 1890. Octavo, pp. 760, with 25 plates illustrating the sedges, grasses, ferns, etc.

latter especially, unsatisfactory to him. He lived to carry out the revision of only the first of these, the plates of which were cast just before his departure for Europe in the spring of 1886. Realizing the futility of undertaking the greater task of re-writing the Manual, he had planned to confide this work to his associate in the Harvard Herbarium, and the senior editor of the GAZETTE, hoping to exercise a general supervision himself. Unfortunately he was not spared for this, but it is evident that the work was left in good hands, and the editors of the new edition are deserving of praise for the faithfulness with which they have striven to make the book what Dr. Gray would have made it himself.

As a book it is every bit as good as the last edition, which is saying a good deal for a volume containing so many abbreviations and technical expressions and symbols, over which printers are apt to stumble. As a manual for convenient use, it is considerably better, since its range has been extended to the eastern limits of the Rocky Mountain flora, and its scope has been enlarged so as to once more include the Liverworts, these changes involving the addition of five excellent plates of detail figures similar to the twenty of the last edition, which are reproduced. With the Manual for the northern and eastern region, Coulter's Flora for the Rocky Mountain section, Chapman for the south, and Lesquereux and James for the mosses of the entire country, students are pretty well equipped for the study of our flora above the Thallophytes, so far as all but the Pacific coast and Texan regions are concerned. Notwithstanding the many additions that have been made in the last ten years, the Botany of California still renders good service for the first of these, and the Botany of the Boundary Survey and the reports on the collections of other expeditions of the same character, make it possible, if not easy, to name plants from the latter.

Had the new edition of the Manual appeared after a greater lapse of time since Professor Gray's death, it would undoubtedly have shown a greater number of unfamiliar names than is now the case; but it is gratifying to find that in an edition planned by him a conscientious effort has been made to conform as far as possible to his views regarding the limitation and nomenclature of species, so that the changes that now appear would have been made for the most part had he been permitted to revise the book himself, as is evinced by the many changes in the Gamopetalæ of its region made by the author in his study of these plants for the Synoptical Flora.

The editors will doubtless be criticised for this feature of their work, since there is now an unmistakable disposition to fix the earliest-used specific name as that of the species, under whatever genus this may first have been placed, a tendency which in some quarters reaches for both generic and specific names back of the Linnæan introduction of binomials, regardless of the number of changes that are involved, or of the number of species that it attaches to the growing list of the reformer; and the

adoption of this system would have considerably increased the number of changed names in the new Manual. Although the tendency referred to repudiates in several important respects the code adopted by the Congress of 1867, which was framed by botanists quite as wise in their day and generation as any who now pass judgment on their views, it can not be denied that a rigid application of the principle of priority can scarcely lead to any other result; and it may be that with the concurrence of the next generation the temporary unstability of the nomenclature will finally give the real stability that all botanists desire. At any rate, there is yet room for an honest difference of opinion on some points involved, and although this may make it the duty of monographers to indicate as a synonym the name that a given plant would bear under the system that they reject, this could hardly have been expected in a work like the Manual, which does not pretend to go into synonymy, and the editors of the new edition would have been more justly criticised had they followed the method that did not meet with the approval of the author of the book, than they can be for doing what they had his testimony that he would have done had the work been performed by his own hand. In this connection, however, attention ought to be called to the unadopted changes in generic names in the Nymphæaceæ that have recently been discussed in the Bulletin of the Torrey Club, and to the unaccepted substitution of *Hicoria* for the familiar *Carya*. However it may be with these genera, it is to be regretted that *Spergularia* of the old edition appears in this edition as *Buda* and not *Tissa*. The priority of the latter, to be sure, is only that of a few pages of a book, both being used in the same work by one author; but the birthright of *Tissa* is not invalidated by this fact, and its use in a recent monograph of the genus by Dr. Britton, prior to the appearance of the Manual, is an additional reason for its use there as a means of avoiding an increase in the number of synonyms.

The usefulness of the book, for beginners, is considerably increased by the incorporation of a glossary, not found in the last edition, and by the provision of a synopsis of the orders in addition to the well arranged artificial keys; and the index now includes the species of large genera, and several confusing popular names—changes that greatly facilitate reference.

Those who use the book during the coming season, especially near the limits of its range, are likely to discover little shortcomings in the distribution of species: and to such it should be a pleasure to communicate to the editors specimens showing any considerable omission.

Probably those who study local floras, where it is frequently easy to distinguish varieties without transition-forms, will take exception to the Manual blending of some nominal species or varieties with accepted species. For instance, *Poa cristata* is almost too distinct from *annua* to pass for a mere form of that species, and *Festuca Shortii* is equally distinct from *F. nutans* in its typical form; and it is probable that more cases of

the same sort occur. Except for a few such, however, the botanist who knows the plants of an extended region will approve of all such unions as appear in a necessarily hasty review of the book.

In some few instances, though the editors have evidently done their work anew for this edition, and have not contented themselves with compiling from earlier editions or other sources, defective descriptions or the omission of really crucial characters are noticeable. Thus, the imbricate petals of Anonaceæ are still called valvate; *Potentilla rivalis*, var. *pentandra* is redescribed as having five stamens, whereas the number is usually six or eight, five being very exceptional in the specimens of the Engelmann herbarium and in many that have been examined in the field by Mr. Hitchcock; the petaloid filaments of *Thalictrum clavatum* are called club shaped, etc. Very useful distinctions between *Oxalis corniculata* and its variety *stricta* are afforded by the rhizomes and dichotomous inflorescence of the latter, from which *O. recurva*, which resembles it in some respects, differs in the trimorphic heterogony of its flowers. It might also have been well to note that the blue-flowered flaxes, introduced in the East, belong to two well-marked forms, one of them, which has been separated under the name of *L. humile*, having widely-dehiscent capsules with ciliate septa, the other, with nearly closed capsules the septa of which are not ciliate. The reviewer must also plead guilty to having omitted the very important characters derivable in *Epilobium* from the innovations, which consist of sessile buds in no. 1, of dense rosettes at base of the stem in nos. 4 and 5, of running leafy shoots in nos. 7 and 8, of scaly rhizomes in no. 9, and of filiform bulbiferous shoots in nos. 2, 3 and 10. But whatever little defects may be noticed in one way or another, both amateurs and working botanists, who are concerned with the flora of the northern states anywhere east of the Rocky Mountains, will be grateful for so good a book, and feel disposed to congratulate the editors on the very satisfactory way in which they have brought it out.—

WILLIAM TRELEASE.

OPEN LETTERS.

Deep-water Nostoc.

In the sentence "When Dr. Wolle's 'Fresh Water Algæ' appeared, this Nostoc was not mentioned," in my note in the GAZETTE, November, 1889, p. 291, I referred to the deep-water Nostoc of Lake Michigan. If I had said "Our deep-water Nostoc was not mentioned," I should have expressed my thought more perfectly.

Evanston, Ill. C. B. ATWELL.

Some more queer botany.

In a letter in this department last year a writer called attention to "some queer botany" which he found in a "doctor-book." If only it could be confined to this class of publications less harm would result than now